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FOREST SERVICE

ANNUAL REPORT

1953

PRIEST RIVER EXPERIMENTAL FOREST

By John H. Dieterich
Superintendent

NORTHERN ROCKY MOUNTAIN FOREST AND RANGE EXPERIMENT STATION
MISSOULA, MONTANA

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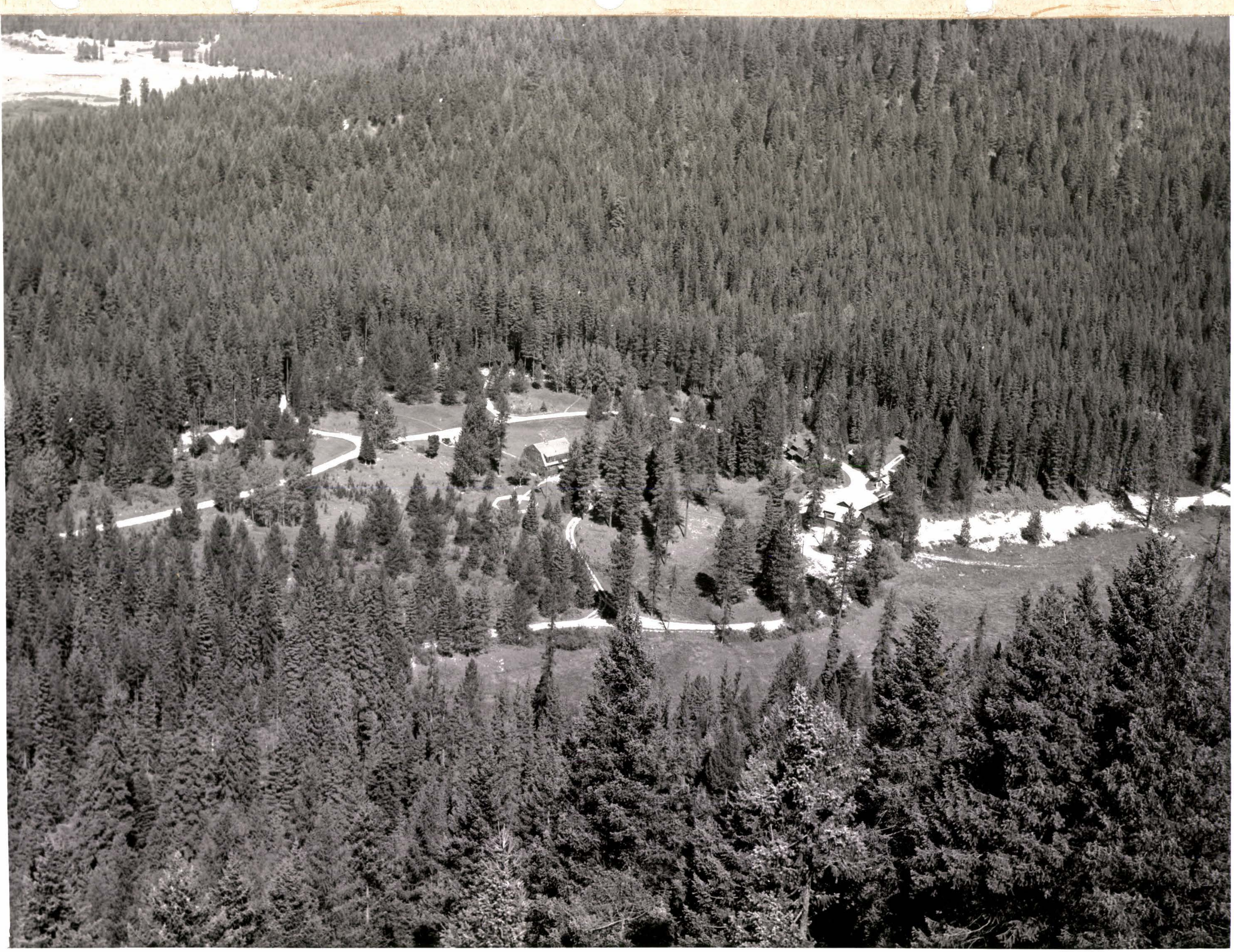

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R-INT
REPORTS
Priest River Annual

PRIEST RIVER EXPERIMENTAL FOREST

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INTRODUCTION

The Priest River Experimental Forest's forty-second year of existence and operation was marked by increased activity in fields of research and administration. This report will necessarily cover a few items that occurred during the calendar years 1951 and 1952, since reports were not prepared at that time. Only major accomplishments in research activities, building and grounds improvement, and a list of distinguished visitors will be presented for the year 1952. A brief review of the Gisborne Mountain dedication ceremony in July, 1951, will be presented at the end of this report.

In the spring of 1952, two major research projects were initiated on the Experimental Forest. In cooperation with the U. S. Army Corps of Engineers, the Priest River Extension of the Vicksburg Infiltration Project, commonly referred to as PREVIP, began a concentrated study to predict soil moisture in the soils common to Northern Idaho. This project employed James C. Holland (Soil Scientist) and Austin E. Helmers (Forester) plus three student field assistants during the summer and early fall of 1952. Holland and Helmers continued full time on the project through the winter, and in addition, J. H. Dieterich began assisting in the analysis phase upon completion of his duties as fire weather assistant.

The other research project initiated in the spring of 1952, was undertaken by the Division of Fire Research and was concerned with the inflammability of logging slash. Plans are to continue this project for the next 5 to 10 years in an effort to obtain information on what effect species, concentration, and age of slash has on rate of spread. A moisture content and rate of drying phase of the experiment is included in the plans. George R. Fahnestock, Division of Fire Research (Missoula) is project leader and he has been assisted by the other members of the Fire Research Division; J. H. Dieterich, Fire Weather Assistant; and a crew of smokejumpers from the Missoula Smokejumper Center. The smokejumpers constructed fence, built plot frames, laid out plot locations and cut, weighed and hauled slash to be put on the plots.

In the late summer of 1952, the experimental burning phase of the slash project was initiated. Thirty-two plots of natural slash and 24 plots of chipped slash were burned at that time. Research notes on the results were published the following summer.

Four families lived on the station during the winter 1952-1953. Austin E. Helmers, James C. Holland and John H. Dieterich were working on the PREVIP soils project and J. Garfield Green was employed as general caretaker and handy man. Most of the snow removal work was also taken care of by Green.

Field work on both the slash project and the infiltration project began again early in the spring. A field assistant was hired to work with Holland and Helmers. Early in June, Helmers was transferred to the Spokane office of the Inland Empire Research Center, being replaced at Priest River by Raymond J. Boyd, formerly of the Rocky Mountain Forest and Range Experiment Station. J. H. Dieterich was appointed superintendent of the Experimental Forest. Midsummer found Holland being transferred to the Spokane office to assist Helmers with analysis and writeup of PREVIP. Boyd terminated the field work and also moved into Spokane, leaving the Experimental Forest on September 1, 1953.

The activities of the logging slash project during the spring and summer of 1953 closely paralleled the activities during the initial spring and summer work in 1952. The plots that had been burned during the late summer of 1952 were also replenished in the fall of 1952. The spring 1953 project centered around the establishment of a series of rate-of-drying plots located on the Experimental Forest within an area that was being currently logged. Smokejumper labor, under the supervision of George Fahnestock, cut trees for crown study and established weather stations in clear-cut, medium-cut, and light-cut areas. Moisture content of needles, branch wood, and stem was determined at frequent regular intervals throughout the summer. The annual burning of natural and chipped slash was accomplished during the first three weeks in September. The moisture content phase was terminated in the fall and the tops of the trees were piled and burned.

Caretaker Green was relieved from station duty on October 9, 1953, completing 10 months of work as grounds keeper and handy man. Dieterich was the only station occupant during remainder of the fall and winter, with the exception of the slash disposal crew mentioned under the section on Forest Management work.

Guests at the Experimental Forest in 1952 included the following Forest Service personnel: A. B. Evanko, Sam Evans, C. A. Wellner, G. R. Fahnestock, C. E. Hardy, J. S. Barrows, G. M. Jemison, A. A. Brown, G. W. Trayer, V. L. Harper, Wm. Riefsnider, W. L. Fons, R. F. Watt, Russ LeBarron, Earl Loveridge, Wm. Swingler, E. J. Jost, C. C. Strong, Monk DeJarnett, George Weyerman, Les Bean, Herb Harris, Don Lynch, A. E. Squillace, Al Spaulding, Mary Jo Pershina.

Other guests for that year included Dean D. S. Jeffers, Dave Olson, Ernest Wohletz, O. A. Fitzgerald, University of Idaho; Vernon Crudge and Vincent Schaefer, Munitalp Foundation, Inc.; Congressman John Wood, Coeur d'Alene; Joe Clark and Jess Bedwell, Forest Pathology, Portland; Mr. and Mrs. R. F. Daubenmire, and Mr. and Mrs. Mark Buchanan, Washington State College.

Three meetings were scheduled for the Experimental Forest, and were as follows:

October 6, 1952 - Idaho Slash Research Advisory Committee

October 1-2, 1953 - Inland Empire Forest Research Advisory Committee. Those attending this meeting were R. T. Bingham, C. A. Wellner, A. B. Evanko, R. F. Watt, A. E. Helmers, and R. J. Boyd, all of the Inland Empire Research Center; Royce Cox, Potlatch Forests, Inc.; Alex Bremner, private rancher; Karl Klehm, Forest Supervisor, Kaniksu National Forest; L. R. Gamble, Washington Water Power Company; F. W. Merewether, Bureau of Land Management; Ernest Wohletz, University of Idaho; and Leonard Young, Agricultural Experiment Station, Washington State College, all committee members.

June 16-17, 1953 - Timber Resources Review Committee. Members of this committee included Clarence Sutliff, Operation - Region I; Herman Swanson, Bureau of Entomology and Plant Quarantine; Clarence Strong, State and Private Forestry - Region I; George Stoltz, Timber Management - Region I; and Phillip Briegleb, Director, Central States Experiment Station.

Distinguished visitors during the year 1953: Art Roe, Merton Reed, C. E. Hardy, G. R. Fahnestock, G. M. Jemison, Harold Jones, Ken Davis, Walt Zillgitt, Peter Stickney, A. A. Brown, Sam Evans, Marvin Foiles, Bob Lerchen, Seth Jackson, Monk DeJarnett, and Mary Jo Pershina, all of the Forest Service; Dave Olson and Ken Hungerford, University of Idaho; Joshua Holland, U. S. Weather Bureau; Paul MacCready and Vincent Schaefer, Munitalp Foundation; Don Drummond, Montana State University; Professor and Mrs. J. R. Schramm, Morris Arboretum, Philadelphia, Pennsylvania; Bernard DeVoto and party, Cambridge, Massachusetts; Joe Clark and Jess Bedwell, Forest Pathology, Portland; Herman Swanson, Bureau of Entomology and Plant Quarantine; Mr. and Mrs. Tore Arnborg, Uppsala, Sweden; and Gene S. Cox and five members of his Watershed Management Class, Montana State University.

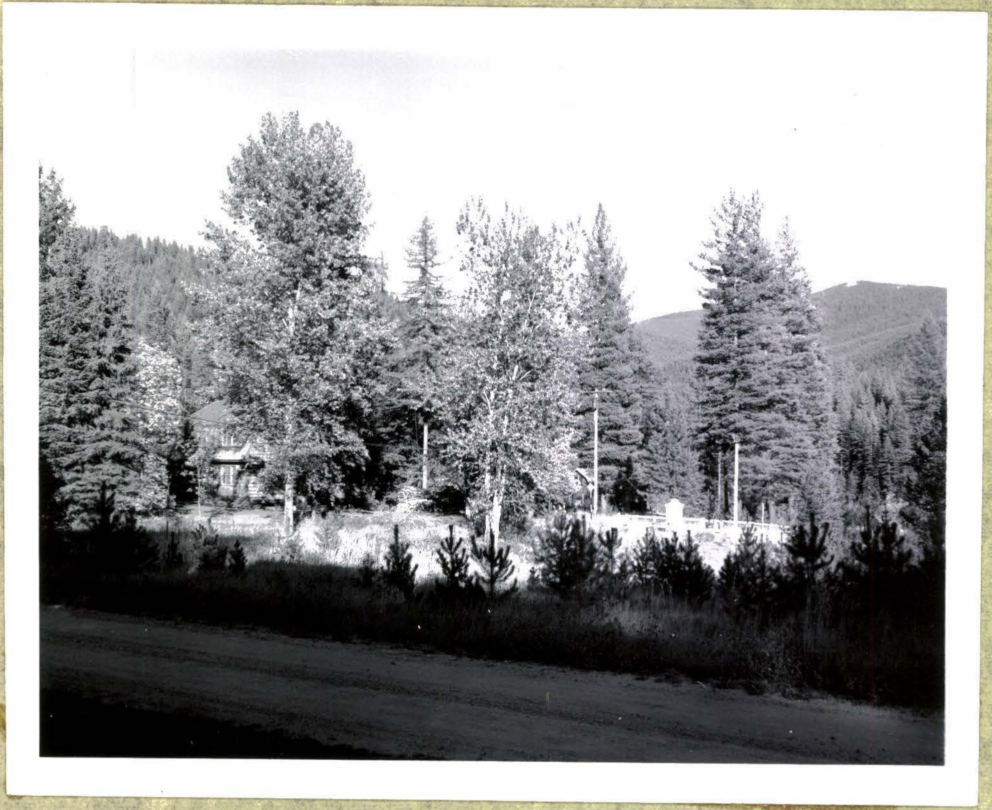


Figure 1. Office building and control weather station. Gisborne Mountain in background.

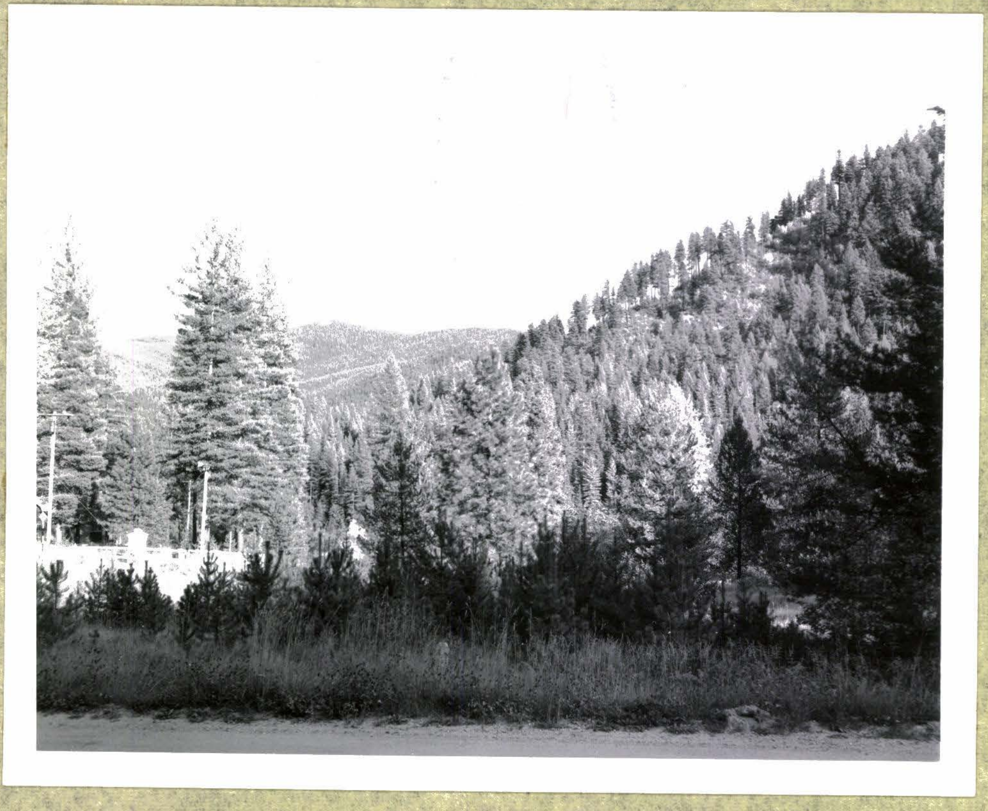


Figure 2. Control weather station, Gisborne Mountain (background), and portion of Crow's Nest Hill.

ADMINISTRATIVE IMPROVEMENT

Station Headquarters Buildings

Maintenance. A large amount of general maintenance work was needed to keep the buildings on the Experimental Forest in good condition. In the summer of 1952, the most important maintenance improvement was the reapplication of an oil preservative to all the buildings having the natural grooved shake sidings. This included the lodge, cottages 2, 3 and 4, office, shop, cookhouse and woodshed, and the lower 5-stall garage. The brown trim on all the buildings was also repainted. During the same summer, the cookhouse was completely reshingled. The following summer, 1953, cottage 2 was completely reshingled requiring slightly over 10 squares of No. 1 air dried, west coast cedar shingles. The price per square was $13.35. Twelve gallons of green roofing stain were purchased and applied to the cookhouse, completing that particular roofing job. The cost of this stain was $2.64 per gallon.

An extensive painting project was undertaken in the summer and fall of 1952 and winter of 1953. Members of the Experimental Forest staff living in the dwellings at the time agreed to paint their own quarters with paint provided by the station. This proved quite satisfactory, and in a few months cottages 2, 3, and 4 had had their interiors almost completely redecorated. Donald Allen, a neighboring rancher, was hired for a period of six weeks in January and February of 1953 to assist caretaker Green in the painting project. They painted all the rooms in the Lodge (cottage 1), painted all the rooms in the office that were not finished in natural wood, and painted the dining room of the cookhouse, the kitchen having been painted two summers previously. The crew quarters above the cookhouse still remain to be painted. New linoleum for the kitchen sink work bench was installed in cottages 2 and 4, providing cleaner, more sanitary working surfaces.

Improvement. Several new items were received in the spring of 1953 that materially improved living and working conditions on the Experimental Forest. New Slimline (florescent type) lighting fixtures were obtained for the lecture room in the basement of the office and in the chemistry laboratory upstairs in the office. This type of light is a decided improvement over the older type lighting fixtures, and has also substantially increased the use of the lecture room which heretofore was rarely used because of the poor lighting. The lights were completely installed by station personnel, with each unit costing $77.67.

Two new refrigerators, one a 9-foot General Electric and the other a 7.5-foot Westinghouse, were purchased and installed, replacing the privately-owned refrigerator in cottage 4 and the old worn-out refrigerator in cottage 2, respectively.

Two electric hot water heaters were purchased from Columbia Electric Company in Spokane. One, with 80-gallon capacity tank costing $113.96, was installed in the lodge, making available a source of hot water that was available before only after a fire had been built in the furnace. The other tank, of 40-gallon capacity, was installed in cottage 2. Up to that time it had been necessary to keep a fire in the wood range for several hours to obtain hot water.

Another major improvement in cottage 2 was the installation of an oil burning Coleman floor furnace, which provides a clean and uniform heat for the house, and replaces a small-capacity, unsatisfactory, wood circulator type heater. Installing this furnace in the established guest house will eliminate the wood supply problem and provide a sure source of heat with a minimum of attention. The cost of the floor furnace, complete, was $115.62.

It was necessary to have an electrician from Priest River come out to the station for several rewiring jobs. The restaurant style electric range in the cookhouse would become overloaded when the large grills and ovens were in use at the same time, causing the circuit breaker to cut off the current. A larger load circuit breaker was installed and a small amount of rewiring was done in that connection. In addition, 220-volt electrical outlets for the electric ranges were installed in cottages 2 and 3. A certain amount of electrical work was needed to hook up the new water heaters in cottage 2 and the lodge.

A miscellaneous item, but nevertheless thought to be an important bit of station improvement, was the preparation of a set of instructions covering the "winterizing" of the water systems in the various buildings and the water system on the station grounds. These instructions should serve only as a guide and additions and corrections will need to be added as the system changes.

Station Headquarters Grounds

A substantial amount of grounds improvement and maintenance was made possible through the hiring of Garfield Green as caretaker-handy man for ten months of 1953.

The lawns were maintained in first-class condition with application of "Lawn Groom" and "Vigero." A successful gopher trapping campaign was carried on by Green throughout the summer. Most of the lawn mowing was done with a hand mower, since the electric mower proved ineffective in the dense grass in front of the office. A gasoline-powered, rotary-type mower would be well adapted for use on the lawns around the station.

A new clothesline was constructed behind cottage 2, and the one behind cottage 3 was extensively repaired. New clotheslines for the lodge and cottage 4 were constructed the previous summer.

A small amount of concrete work was done at the control weather station and the clearcut weather station. At the control, a concrete block was poured in front of the instrument shelter. A concrete base for the instrument shelter was poured at the clearcut station.

Two small truckloads of crushed quartz from the Freeman Lake quarry were all that were necessary to complete a path from the office to the control weather station.

Considerable work was necessary to improve the conditions at the station water supply dam. Twice during the year the dam was sluiced out, the silt being pushed out of the dam outlet with the aid of the station bulldozer. A new intake for the water pipe was constructed and installed in October. The old intake drew water from the very bottom of the dam and rapidly became clogged with silt. The new intake now draws the water from the area 3-12 inches below the surface, markedly reducing the amount of silt lodging on the intake screens.

The Benton Creek Gaging Dam provides an additional silting problem. The dam also has a tendency to fill up with fine organic material and flushing it out is more difficult than flushing out the water supply dam. Two attempts were made to remove some of the silt and the area around the dam was cleared up.

In May, a new flag pole was cut, peeled of bark, and blocked up to dry for the remainder of the summer. The drying process was never completed since the smokejumper crew, making posts from right-of-way material, cut up the pole neatly into post lengths, split what was necessary and hauled the new posts into the post stock pile.

The two ornamental Mugo Pines on either side of the walk by the flagpole were removed. They had become too large to be pruned satisfactorily and were spreading out over too wide an area. They will be replaced by smaller, evergreen type shrubs.

The wood supply for the station (office, lodge and cookhouse) was partially provided for by the smokejumper crew, the remainder being obtained by Dieterich and Green from right-of-way material and trees felled in thinning around the clearcut weather station.

Major steps to improve the station water supply were taken during the summers of 1952 and 1953. Bids and contracts for the purchasing and laying of 2,245 feet of 5-inch, untreated, coated, wire-wound, wood stave water pipe, designed for 250-foot head pressure were released. The pipe was purchased from the Federal Pipe and Tank Company, Seattle, and delivered by motor freight and rail. During the summer of 1952, 1,245 feet of pipe were laid by contractors for $.75 per foot. The work was supervised by A. E. Helmers. In the summer of 1953, the same contractors, Pagnotta Brothers of Priest River, began laying pipe where they had left off at the upper end of Benton Meadow the previous year, under the supervision of J. H. Dieterich. One thousand feet of the same type of pipe carried the new line just through the open grove of big cedar trees on the way up Benton Creek.

Summary of Water Line Expenses

Year	Amount of pipe purchased (feet)	Cost per foot (dollars)	Cost of pipe	Contract laying pipe/ft.	Number of feet laid	Total cost
1952	1500	$1.341	$2,021.50	$0.75	1245	$ 933.75
1953	1814	1.0945	1,985.33	1.85	1000	1,850.00
Total	3314		4,006.83		2245	2,783.75

Cost of pipe plus installment, to date: $6790.58
Pipe on hand (to be laid): 1069 feet

No serious difficulties were confronted by the contractors in 1953 but water seepage into the ditch during the summer of 1952 caused work to progress slowly. All but a very small portion of the ditching was done with a large portable ditching machine. The easiest part of the pipe line has been laid. The remainder of the line will be in a fairly dense stand of timber and it will be difficult to use heavy equipment without cutting numerous trees. Considerable hand ditching will be necessary to accomplish the job with a minimum of damage to the stand.

The pipe that is being replaced was purchased from the Pacific Coast Pipe Company, Seattle, about 39 years ago (around 1915). It was creosoted, Douglas-fir, wood stave pipe in three sizes: 6 inches, 8 inches and 10 inches.

Station Headquarters

Radio Communications. The station radio facilities were improved with the purchase of two FM backpack radiophones with power supply units. Purchase was made from the Radio Specialty Company, Portland, Oregon, and delivered in the early spring of 1953. Cost per set was $577.46. Direct contact with Falls Ranger Station and their lookouts was obtained. The hookup between the office and Gisborne Mountain Lookout, key lookout in current cloud study activities, was extremely valuable. Further improvement in the radio setup came in September with the installation of a permanent, lookout type antenna on top of the office. Direct contact with the Falls Ranger Station was improved materially. Installation of antennas in the Sno-cat and the 3/4-ton Ford pickup truck made it possible to use the two FM portable sets in the vehicles with power provided by the vehicles.

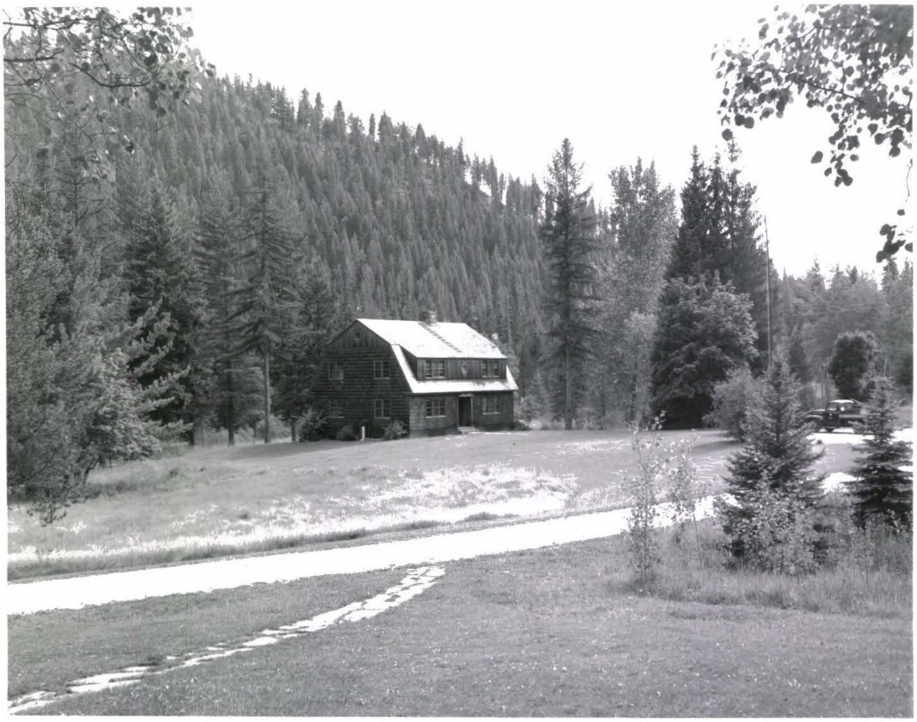


Figure 3. General view of office building and grounds, taken from cottage 1 lawn.

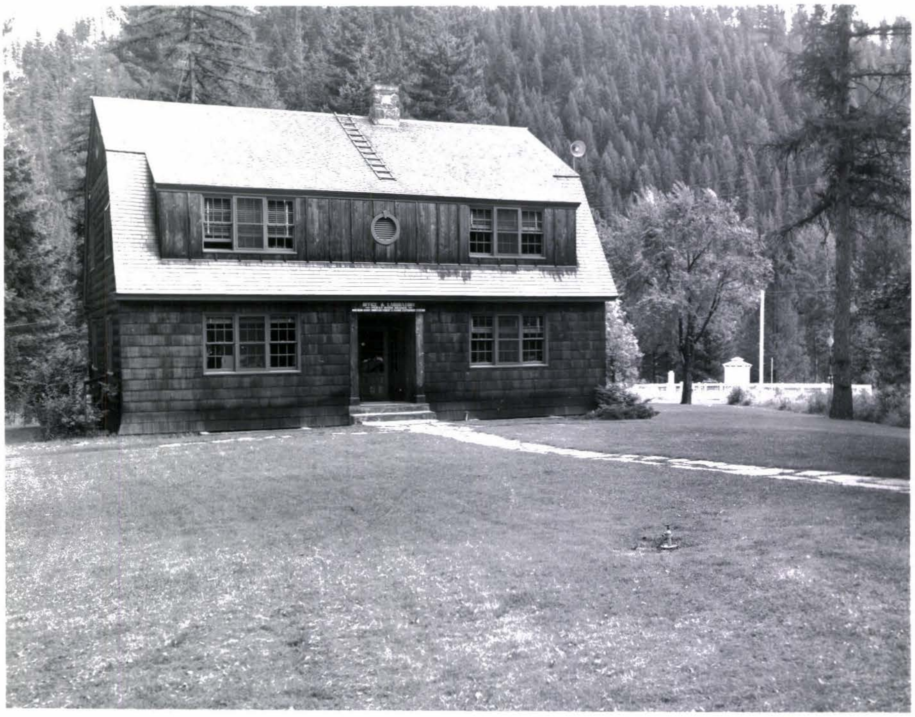


Figure 4. Office and laboratory building, with control weather station in background.

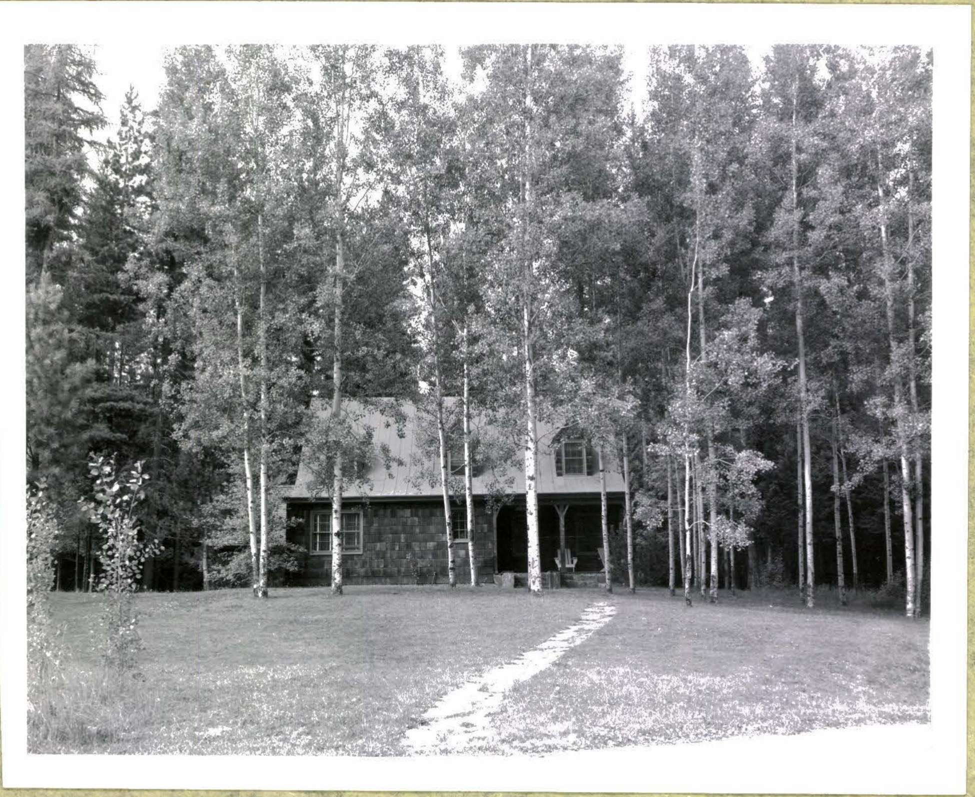


Figure 5. Cottage 1 (lodge)

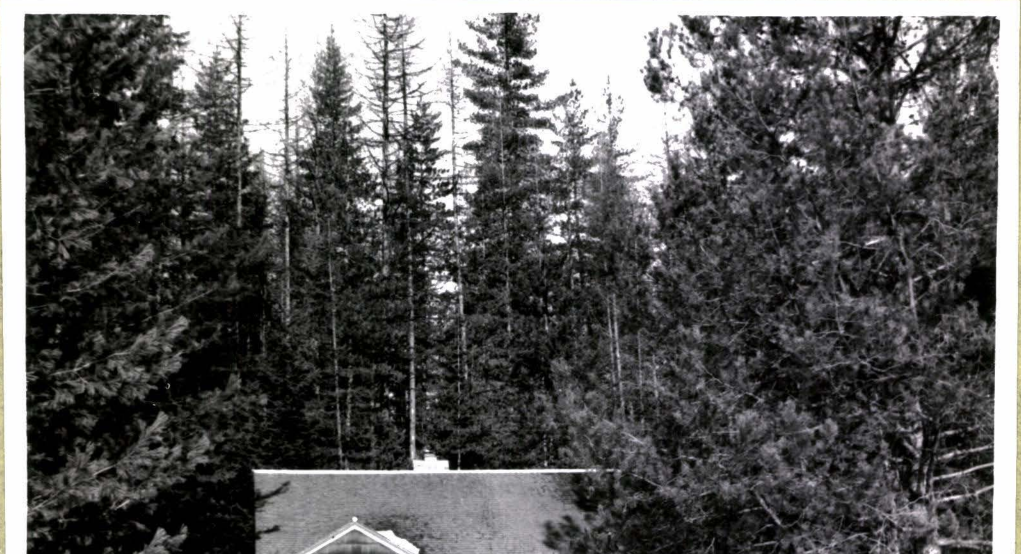


Figure 6. Cottage 3 (taken in mid-March)

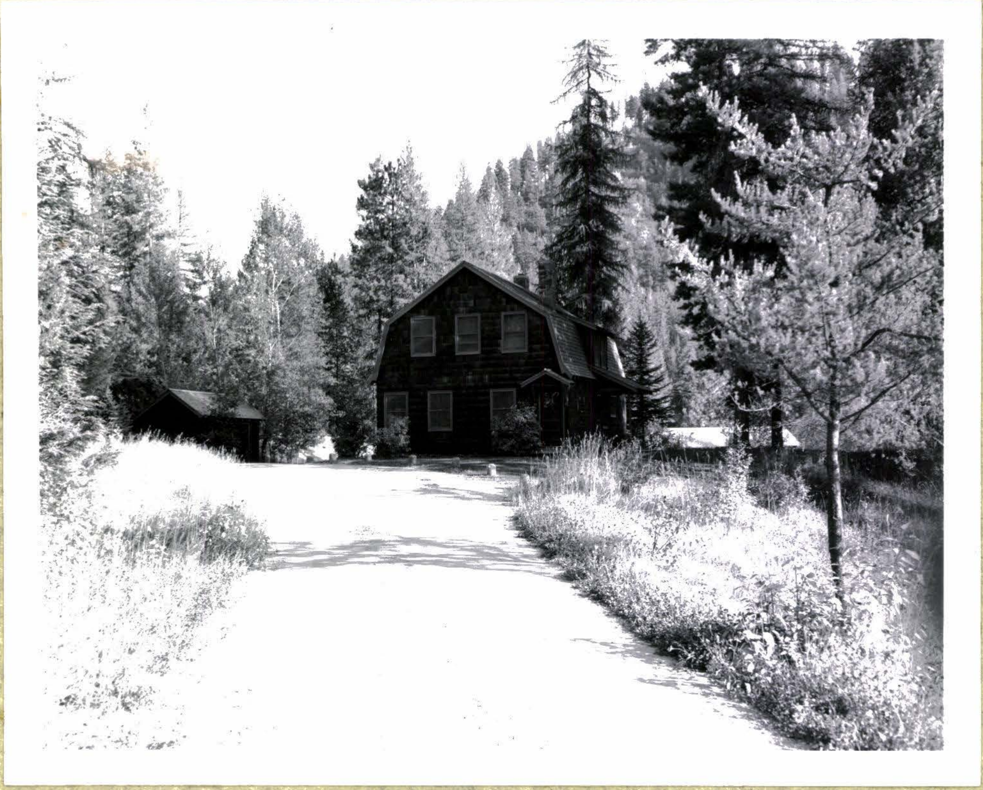


Figure 7. Cookhouse-bunkhouse and woodshed.

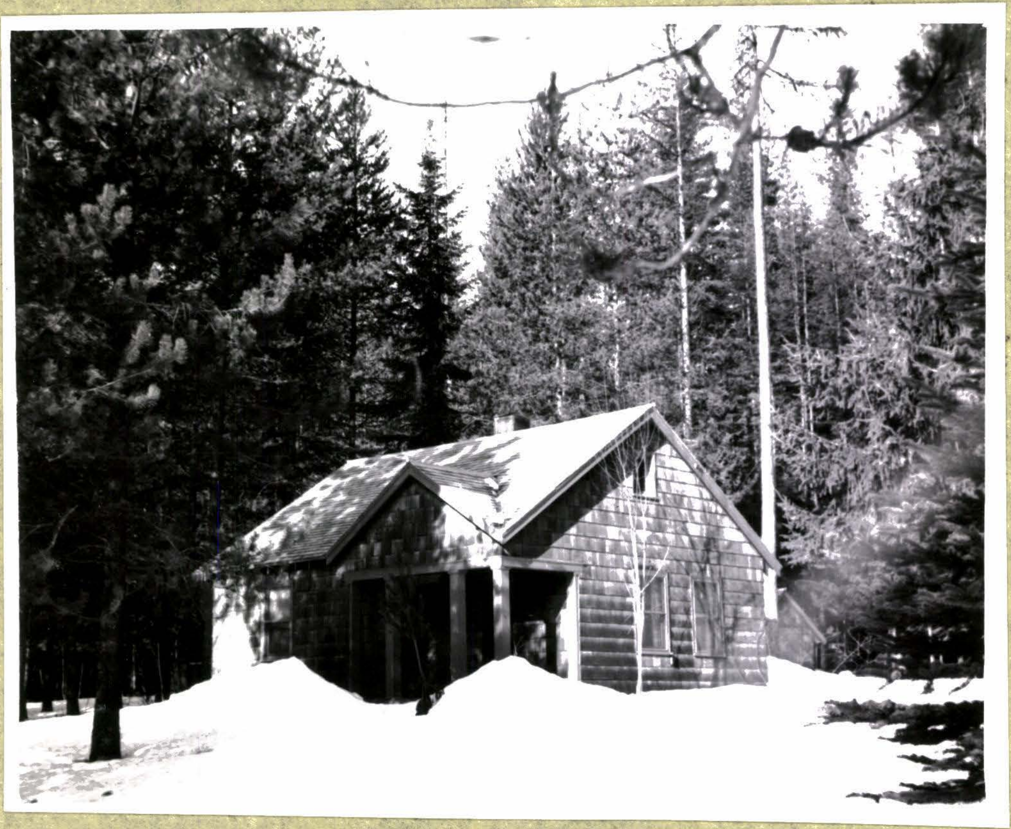


Figure 8. Cottage 2 (Note new roof, not yet stained.)

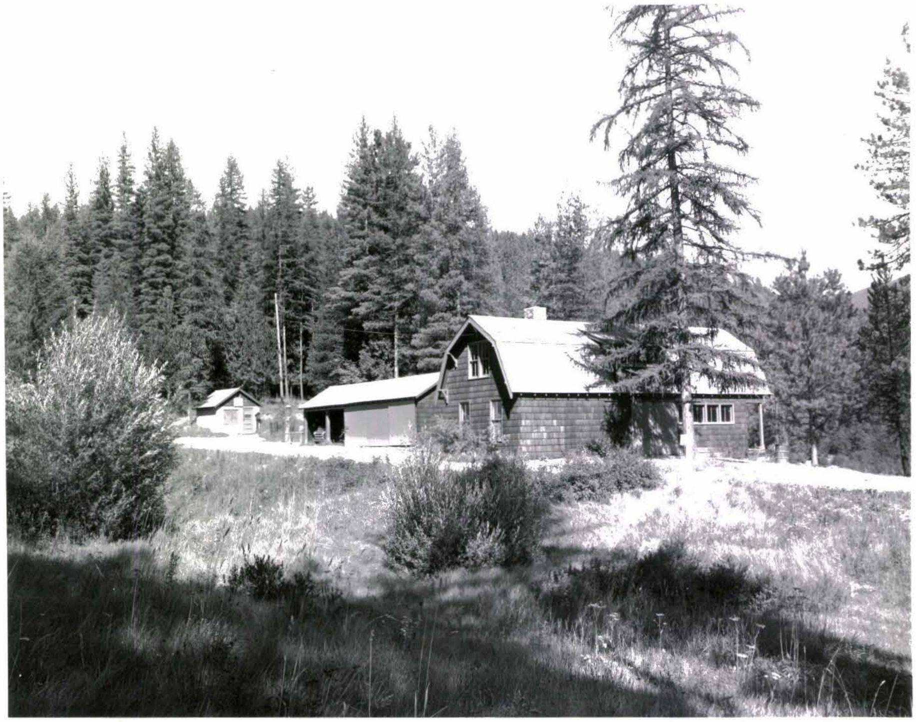


Figure 9. General view of shop, 5-stall garage, and gasoline-oil storage building.

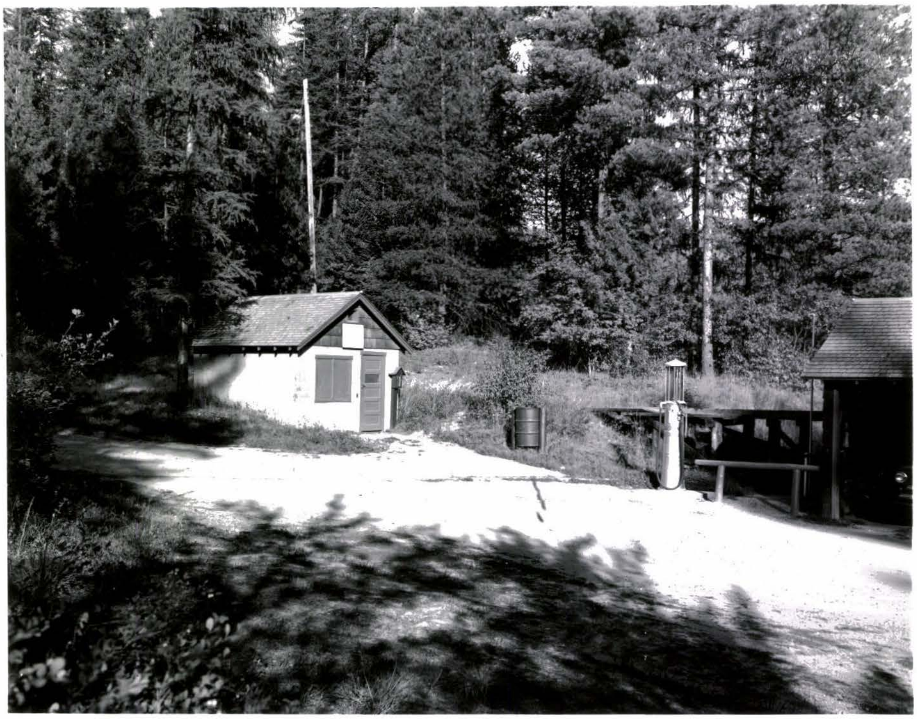


Figure 10. Gasoline-oil storage building, fire barrel full of sand, gasoline pump and grease rack in background.

EXPERIMENTAL FOREST AREA

Roads

Following is a summary of the work accomplished on the Experimental Forest roads during 1953. Work done by timber operator contract will be discussed under timber sales in the section to follow.

Road	Man days work	Expenses	Work accomplished
Benton Creek Rd	32	$ 12.80 per man day	General roadside cleanup with piling and burning; grading.
South Ridge Rd	40	$ 12.80 per man day	General cleanup and brushing along road, some grading and ditching.
South Ridge Rd	12	$230.00 (includes 6 hrs. dozer work)	Replaced bridge across Benton Creek with two culverts. Installed culverts in low places on both sides of cr. crossing.
Center Ridge Rd	16	$ 12.80 per man day	Spot brushing. Road grades, some ditches pulled.
Canyon Creek Natural Area Rd	4	$ 12.80 per man day	General maintenance and improvement-more will be needed.
North Ridge Rd	8	$ 12.80 per man day	Road brushed and graded to Jct. of Trail 52.
K-Rd (Canyon Cr.)	28	$1100.00 total (approx.)	Blasting rock from narrow corners-new road with dozer, grade.
J-Rd (Canyon Cr.)	6	—	Blasted rock, leveling with hand tools.
Canyon Cr. Rd.	20	$ 12.80 per man day	Replaced Canyon Cr. bridge with culvert, widened road in some places.

Signs

A total of 24 signs were ordered from the Regional Sign Shop through the District Ranger at Falls Ranger Station, to be used both on and off the Experimental Forest. Directional signs were ordered for the major intersections between the town of Priest River and the Experimental Forest. The construction of several new logging roads on the forest made it necessary to order signs for marking these new roads. Two new entrance signs were ordered.

FOREST MANAGEMENT WORK

Timber Sales

Straalsund-Thesman, Newport, Washington, (9-8-52).
Work on this sale began in the spring of 1953 and was completed in the fall of the same year. The sale area included portions of sections 23, 26 and 27, T58N, R4W - 360 acres total. Per acre volume was not uniform, the merchantable volume being confined to ridge tops and south slopes where the overmature yellow pine remained.

The main purpose of the sale was to remove the overmature stand of ponderosa pine and establish a network of operator constructed roads in the area.

A total of 916,640 board feet of timber was removed from the area, of which over half was ponderosa pine (see summary sheet). All timber to be removed had been previously marked.

The operator constructed 4 miles of new road and reconstructed 1-1/3 miles of road according to specifications in the timber sale contract. The new road was located by the Forest Service, was to be not less than 12 feet wide, and 10 percent grade was not to be exceeded. Included was a connecting link between Ida Spur and Canyon Creek Roads. All trees over 4 inches were felled from right-of-way to reduce the number of windfalls that would fall across the road. New road construction is shown on the timber sale map.

The reconstruction was on the main haul road (Benton Creek Road) and consisted chiefly of widening, draining, and realignment with some spot surfacing. It was estimated that 4500 yards of gravel would be necessary to surface the road to a minimum depth of 8 inches.

Estimated cost of road construction is as follows:

1-1/3 miles Benton Creek Road reconstruction (including graveling, culverts, dozing, etc.)	$6,500.00
4 miles new logging road @ $1500 per mile	6,000.00
Total	$12,500.00

Ronald MacDonald, Priest River, Idaho (7-3-53).
This sale, under Regulation S-25, included approximately 120 acres in the S½ Sec. 23, and W½ Sec. 24, T58N, R4W. The removal of white pine infected with pole blight was the primary reason for the sale. Approximately 400 M feet will be removed upon completion of the sale.

E. H. Thesman, Newport, Washington (7-6-53).
Also administered under Regulation S-25, the Thesman sale included 107,750 feet of marked pole blight, infected white pine having been removed. Mixed species totaling 13 M feet were removed in right-of-way construction. The operator contracted to construct 0.4 miles of road according to Forest Service specifications. Development costs for road construction was $17 per M. Horse skidding was used to minimize damage to the residual stand.

James Naccarato, Priest River, Idaho (6-8-53).
The operator removed 2000 cedar posts from the SW¼ Sec. 26, T58N, R4W in the Fox Creek drainage. Posts were obtained from dead cedar trees and were checked on the Experimental Forest. The cost to the operator was 1 cent per post plus ½ cent per post for slash disposal costs.

L. J. Branning, Priest River, Idaho (12-1-52).
A winter post operation provided the operator with 1069 posts from the NE¼ Sec. 26, T58N, R4W. Cost was 2 cents per post stumpage and 1 cent per post for slash disposal. The operator paid $10.67 for slash disposal but the actual costs ran up to $38.40 to clean the area.

All sales on the Experimental Forest were administered by the District Ranger at Falls Ranger Station, Kaniksu National Forest.

Table 1. Timber sale summary

Sale (name and address)	Date	Amount cut: b.f.	Sale price - per M b.f.			Receipts		
			Stumpage	Brush disposal	KV Fund	Total stumpage	Brush disposal	KV Fund
Straalsund-Thesman Newport, Wn.	9-8-52	916,640	WR-$25.00 PP- 8.40 Other 2.50	$2.50	$3.50 on PP	$6,419.53	$2,291.60	$1,971.06
Ronald MacDonald Priest River	7-3-53	181,990	WP and WRC- 2.00 L and Fir- 1.75	2.00	—	362.22	363.98	—
E. H. Thesman Newport, Wn.	7-6-53	120,850	$2.00	2.00	—	241.70	241.70	—
James Naccarato Priest River	6-8-53	2,000 posts	.01	.005	—	20.00	10.00	—
L. J. Branning Priest River	12-1-52	1,069 posts	.02	.01	—	21.38	10.69	—
TOTALS	—	1,219,480 and 3,069 posts	—	—	—	$7,064.83	$2,917.97	$1,971.06

Slash Disposal

Three man-days were spent disposing of concentrations of cedar slash immediately above the water supply dam.

In the fall of 1953 a slash disposal crew from Falls Ranger Station moved into the bunkhouse-cookhouse on the Experimental Forest and spent 268 man-days on cleanup of slash on the Straalsund-Thesman sale (9-8-52). Progressive burning was attempted, but due to the very dry fall the crew was forced to resort to piling with only a small amount of burning actually accomplished. Many piles of slash remain to be burned. The crew did a good job of cleanup; in fact, they probably were too thorough in the areas where they worked since funds were exhausted before slash disposal coverage of the sale was completed. The crew furnished their own cook, and the average cost per man-day was $12.45.

Diamond Match Trespass

Trespass by the Diamond Match Logging Company was reported by Diamond Match officials to the Falls Ranger Station District Ranger in the fall of 1953. Some 10,333 feet of mixed species (7,040 feet of white pine) were cut in right-of-way clearing. Location of the trespass is in the NWSW ¼ Sec. 21, T58N, R3W (Tarlac Creek Drainage of the Experimental Forest). Ranger station personnel traversed the road and scaled the logs, all of which were left on the ground where they were cut. Settlement will be made in the spring of 1954.

INVESTIGATIVE WORK

Weather

Yearlong weather observations were maintained at the control weather station of the Experimental Forest. Records included temperature, relative humidity, precipitation, daily snowfall and cumulative snow cover. Recording precipitation gages were maintained at the control station, Benton Creek Gaging Dam, and at the end of the Benton Creek Road. The water stage recorder at Benton Dam was also maintained yearlong. Beginning August 1, 1953, the records on the flow of Benton Spring were obtained by bucket measurements. The water level recorder was removed for use elsewhere.

Silvicultural Investigations

Regular 5-year periodic measurements were made on plots 155 and 157 through 161. Plot 176, which is a 200+ year-old white pine and a prolific seeder, was checked. The checking procedure consists of counting the cone crop annually.

Yield plots 122, 123, and 151 were maintained by checking corner posts and pulling tag nails when necessary.

A mortality check of plot 199 revealed a few dead seedlings, but in general the hybrid seedlings (a cross between lodgepole pine and jackpine) were doing well.

The pathways and some of the dead material were removed from the racial varieties plot. (Plot 162, racial varieties of ponderosa pine.) More cleaning was found to be needed.

Peter F. Stickney was hired by the Forest Service to study the twist in larch poles. Stickney spent a good portion of the 1953 field season on the Experimental Forest attempting to perfect a method of recognizing this twist in the standing tree. Another phase of this experiment is centered in Newport, Washington, where there is an area of standing poles that are periodically measured to record the twist that occurs.

Meteorology

A new research project that began in the spring of 1950 was "Project Skyfire." The Forest Service, in cooperation with a private research foundation, The Munitalp Foundation, Inc., initiated a study for becoming more thoroughly acquainted with various cloud formations and cloud build-up, the Jet Stream, and other factors that directly affect the occurrence of lightning storms. It is hoped that eventually it will become possible to modify certain weather factors and thereby prevent lightning storms which are the greatest single cause of forest fires in the Northern Rocky Mountains. Paul B. MacCready analyzed reports from the network of fire lookouts over the region and directed the operation from his headquarters on the Experimental Forest. MacCready arrived early in the spring, hired by the Munitalp Foundation as meteorological consultant, and left the station October 12, 1953.

The investigative work concerning logging slash inflammability and the infiltration project (PREVIP) were explained in the introduction and need no further mention here.

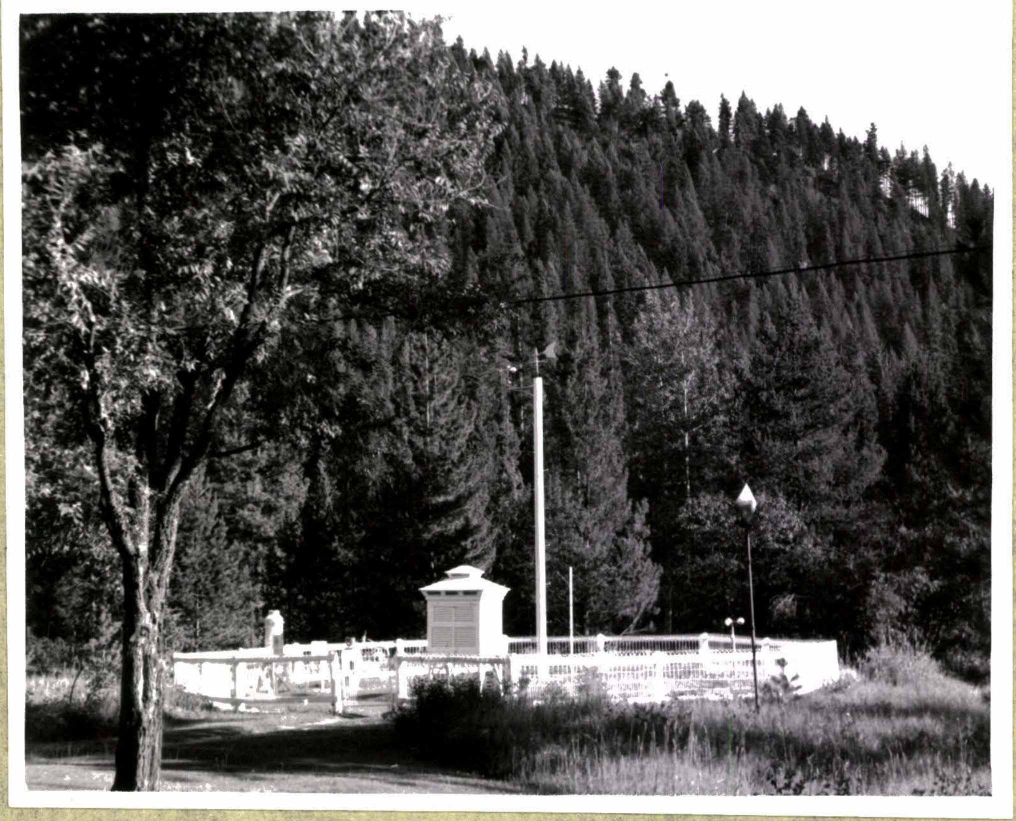


Figure 11. Control weather station. Daily weather observations are maintained here.

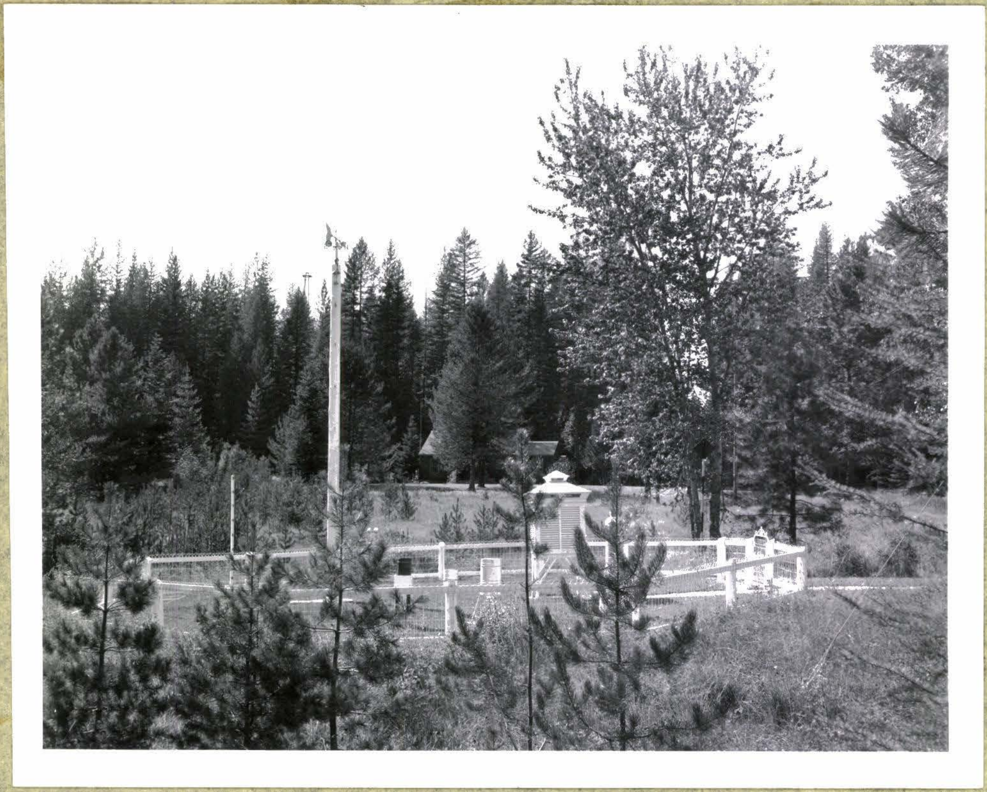


Figure 12. Control weather station with Cottage 4 and 150-foot meteorological tower in background.

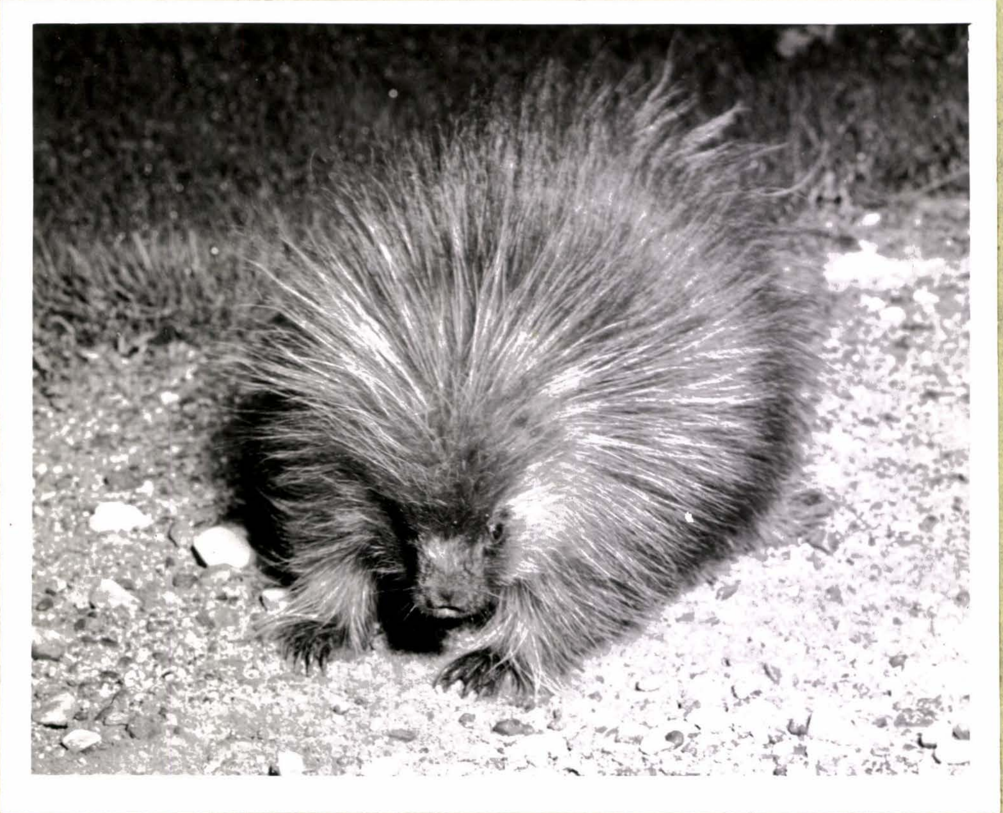


Figure 13. Young porcupine. These animals caused considerable damage to small trees on Experimental Forest.

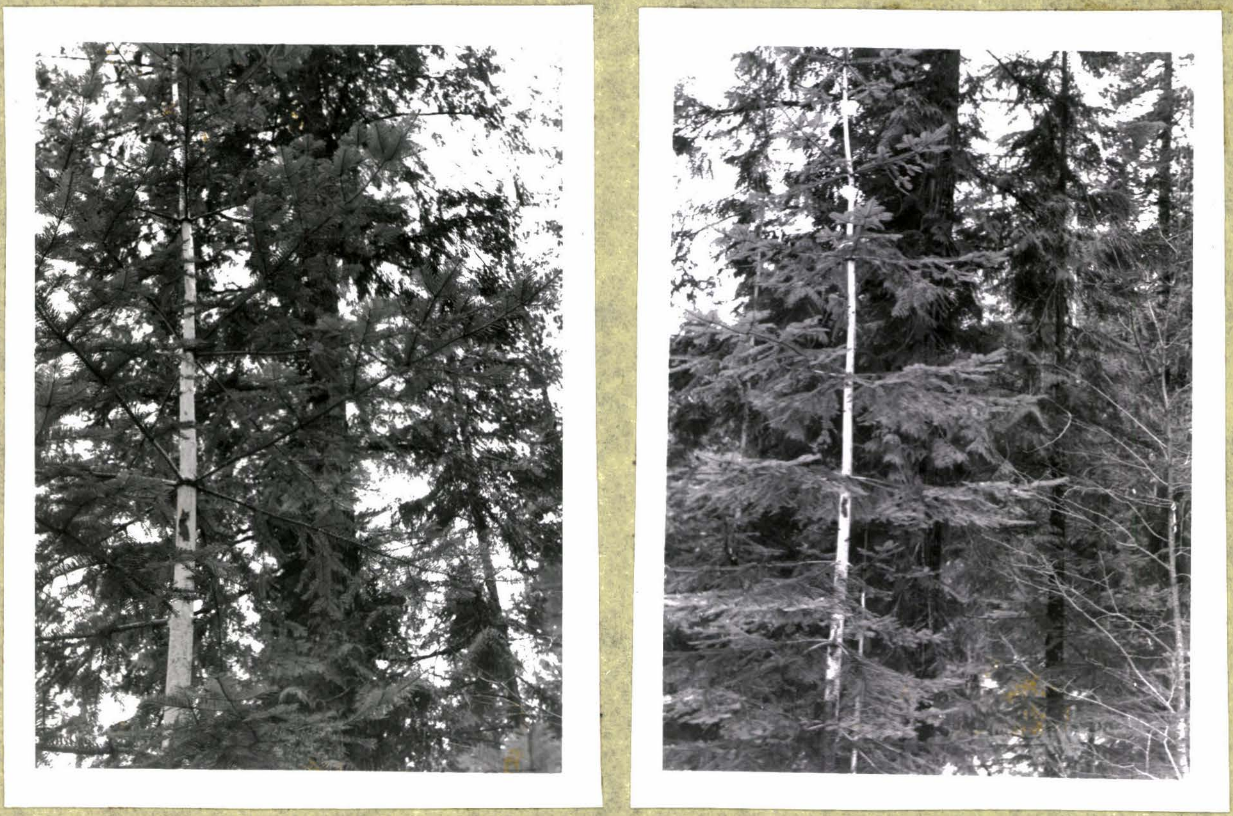
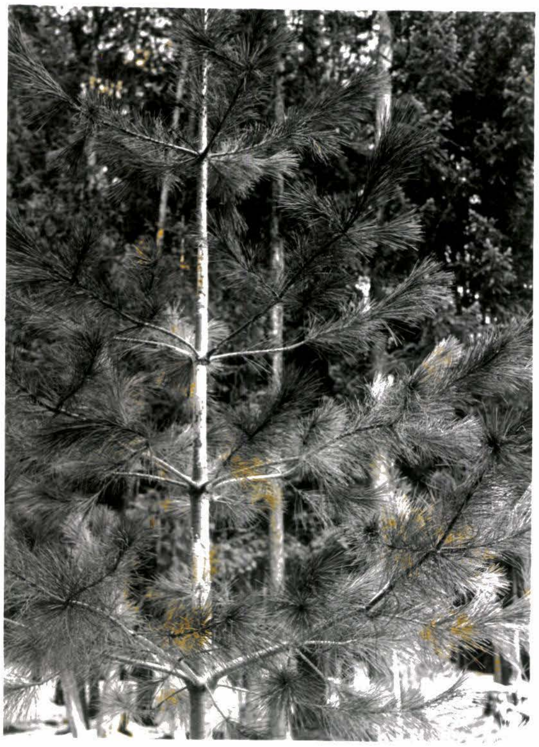
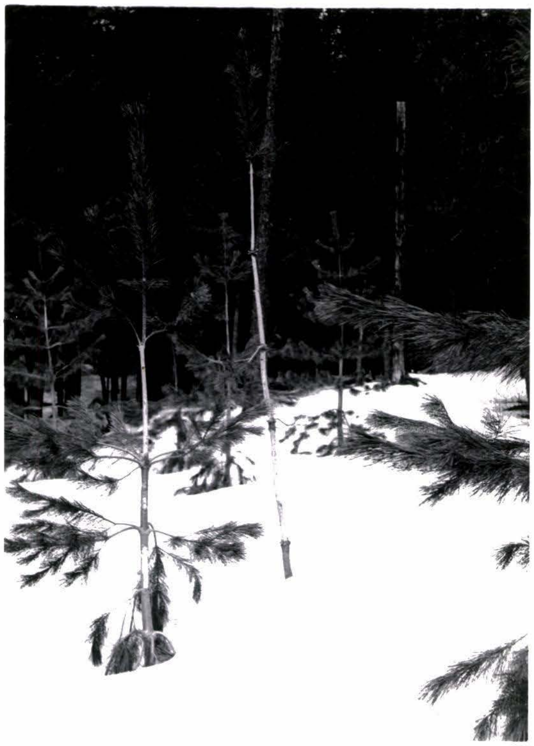


Figure 14. Porcupine damage to grand fir, Benton Creek.

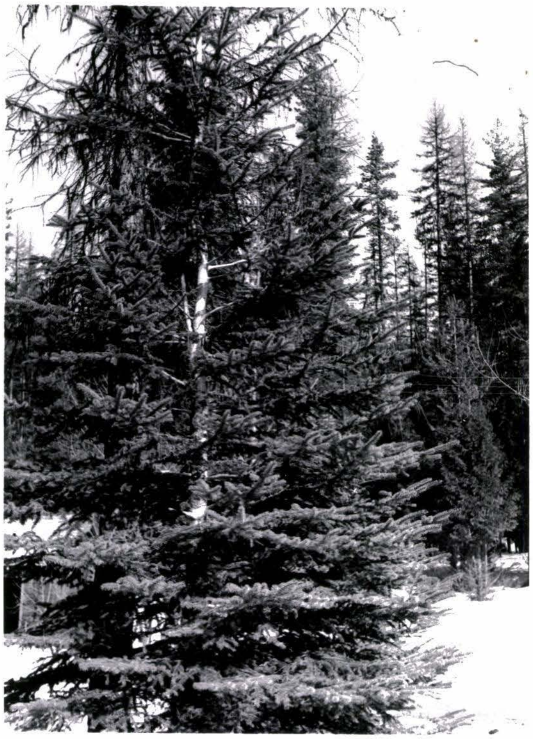


White pine



White pine and lodgepole pine

Figure 15. Porcupine damage to trees on Experimental Forest



Blue spruce

COOPERATION

In March, 1953, Dieterich and three men from the Priest Lake Ranger District made a trip into the Hughes Meadows B.R.C. and removed the accumulated snow from the roofs of the buildings. The station Tucker Sno-cat was used for the operation. Two days were required to complete the trip.

During the winter of 1953-1954, Falls Ranger Station provided some much appreciated assistance to the Experimental Forest. Heavy snows fell in January and three times during the month the station tractor broke down. Each time, the roads were plowed out by the Ranger Station maintainer before the tractor was repaired. In addition, the assistant ranger, Art Olson, took weather readings at 1700 hours and built fires in the office and Cottage 4 each day during a 6-day period in late January while Superintendent Dieterich was attending the Junior Professional Meeting held in Missoula. Payment for this service was from the Inland Empire Forest Management fund.

Cooperative Snow Survey measurements were continued at both Benton Spring and Benton Meadow locations. Results of 5 previous years and the 17 year summaries are included in the table following.

Table 2. Snow survey summary - 1949-1953.

Benton Spring Snow Course

Year	January 1		February 1		March 1		April 1	
	Snow depth	Water equiv.	Snow depth	Water equiv.	Snow depth	Water equiv.	Snow depth	Water equiv.
				Inches				
1949	51	15.7	50	16.8	82	29.8	82	32.8
1950	35	8.5	55	18.4	59	20.9	73	27.6
1951	23	6.5	46	13.5	44	15.0	51	18.6
1952	46	13	76	21.4	72	25.5	74	26.8
1953	32	9.6	49	17.0	58	20.2	60	21.7
17 year average	30	8.3	46	13.9	55	18.6	55	20.5

Benton Meadow Snow Course

Year	January 1		February 1		March 1		April 1	
	Snow depth	Water equiv.	Snow depth	Water equiv.	Snow depth	Water equiv.	Snow depth	Water equiv.
				Inches				
1949	28	6.6	30	7.3	30	9.3	13	4.1
1950	20	4.4	36	9.8	29	9.7	18	6.7
1951	10	1.5	25	4.7	17	5.0	8	2.6
1952	25	5.3	32	9.9	31	10.6	18	7.1
1953	20	4.8	2	.5	6	1.5	T	0.1
17 year average	12	2.7	19	4.8	19	6.0	5	2.1

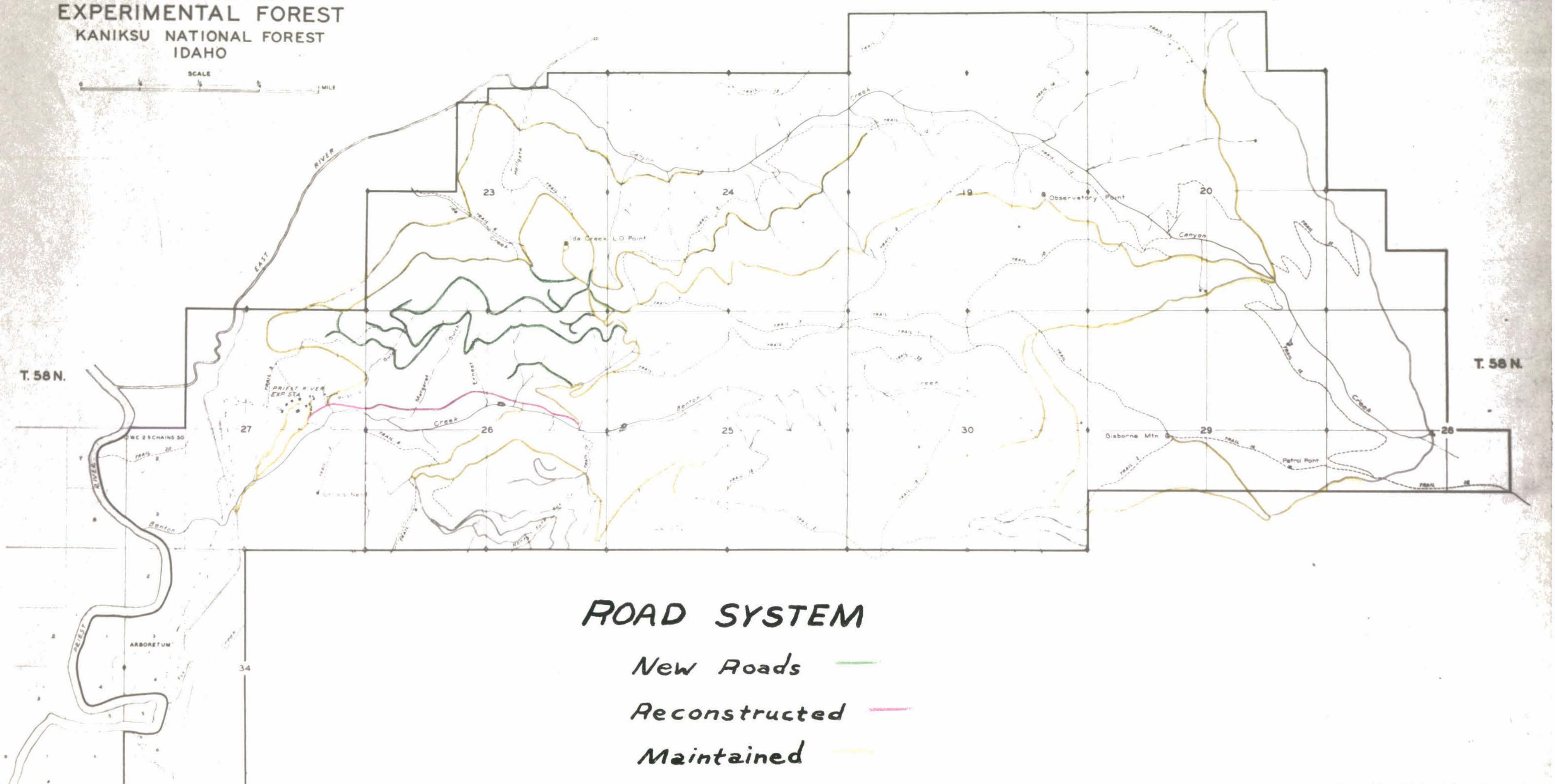
PAST EVENTS OF IMPORTANCE

In view of the fact that no annual report was written concerning the activities of the Experimental Forest during 1951, certainly the Gisborne Mountain dedication and fortieth anniversary of Priest River Experimental Forest deserve at least brief mention here. On the morning of July 8, 1951, a formal dedication of Gisborne Mountain (formerly called Looking Glass Mountain) was held at the lookout in honor of the late Harry T. Gisborne. Gisborne had been with the Forest Service since 1915 and had been in the northern Rocky Mountains since about 1922. His work in fire research, specifically fire danger ratings, is recognized in all parts of the world. He came to Priest River April 1, 1922 as Forest Examiner but soon began devoting full time to fire research studies. When Gisborne died on November 9, 1949, he was chief of the Division of Forest Fire Research in the Northern Rocky Mountain Forest and Range Experiment Station. He was truly a pioneer scientist in his field. A bronze plaque has been set in stone near the lookout in his memory.

Following the dedication, a show-me trip of the Experimental Forest was held and a picnic lunch was served for the attending visitors.

APPENDIX

PRIEST RIVER
EXPERIMENTAL FOREST
KANIKSU NATIONAL FOREST
IDAHO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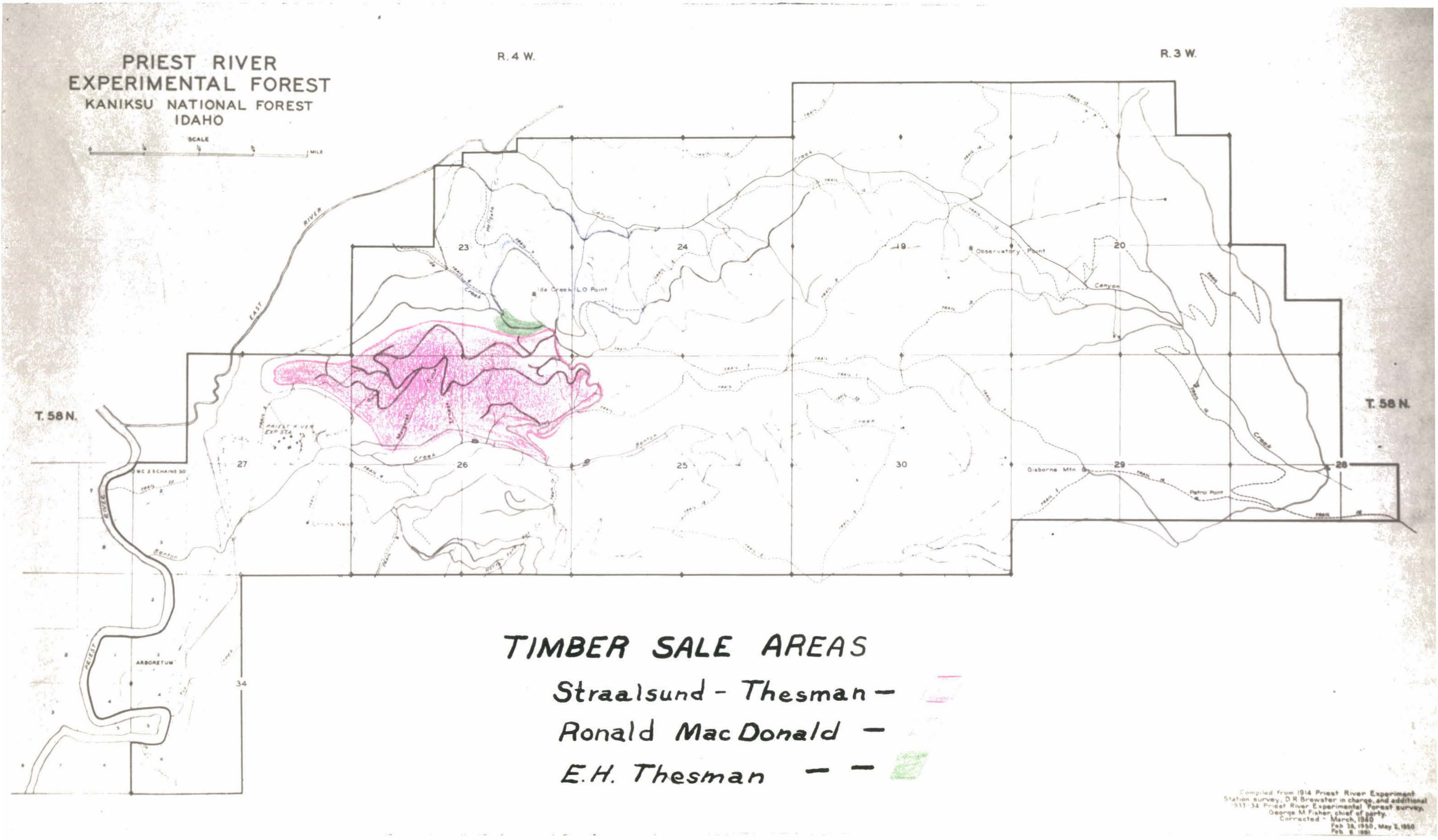
Ida Creek L.O. Point
Observatory Point
Canyon
Canyon
Creek
Creek
Benton
Creek
Benton
Margaret
Ernest
Gisborne Mtn
Patrol Point
PRIEST RIVER EXP STA
W.C. 2.5 CHAINS 50
ARBORETUM
TRAIL
TRAIL 16

ROAD SYSTEM

New Roads 🟩
Reconstructed 🟪
Maintained 🟨

Compiled from 1914 Priest River Experiment
Station survey, D.R. Brewster in charge, and additional
1933-34 Priest River Experimental Forest survey,
George M Fisher chief of party.
Corrected - March, 1940
Feb 28, 1950, May 2, 1950
Feb 6 1951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EAST RIVER
PRIEST RIVER
Canyon
Canyon
Creek
Benton Creek
Benton
Ida Creek
Ida Creek L.O. Point
Observatory Point
Gisborne Mtn
Patrol Point
PRIEST RIVER EXP. STA.
ARBORETUM
TRAIL

PRIEST RIVER
EXPERIMENTAL FOREST
KANIKSU NATIONAL FOREST
IDAHO

TIMBER SALE AREAS

Straalsund - Thesman — 🟪
Ronald MacDonald —
E.H. Thesman — — 🟩

Compiled from 1914 Priest River Experiment
Station survey, D.R. Brewster in charge, and additional
1933-34 Priest River Experimental Forest survey,
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